NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

FISHPOND MANAGEMENT

(Ac.)

CODE 399

DEFINITION

Managing impounded water for the production of fish or other aquatic organisms (non-commercial use).

PURPOSE

- To provide favorable habitat for fish and other aquatic organisms.
- To develop and maintain a desired species composition and ratio.
- To develop and maintain a desired level of production.

CONDITIONS WHERE PRACTICE APPLIES

In warm and cold water ponds, lakes, and reservoirs.

CRITERIA

General Criteria Applicable To All Purposes

Structures will meet or exceed the requirements of the Pond Standard (378).

All Federal, State and local regulations will be followed and necessary permits obtained prior to stocking, etc.

Do not recommend species that are considered invasive or may become invasive in surrounding waters.

The source of water must be sufficient to maintain the planned water level.

The site will be protected from flooding and sedimentation.

The pond will be protected from contamination from barnyards, septic tanks, pesticides, excess nutrient runoff and other types of pollutants.

Livestock will be excluded from entering the pond.

The pond will have adequate depth to successfully over-winter fish in most years. See Table 1 under Specifications.

Pond must be at least one half acre in surface area.

Additional Criteria To Develop And Maintain A Desired Species Composition And Ratio

Species for stocking will be limited to those that are adapted for use in ponds, lakes or reservoirs in Illinois.

Species selection(s) and stocking rates will follow Illinois Department of Natural Resources (IDNR) Division of Fisheries recommendations. See “Fish Stocking” under Plans and Specifications.

Stocking rates and species selection and combinations will depend upon the size, depth, water temperature, and water quality of the area to be stocked. See “Fish Stocking” under Plans and Specifications.

To maintain the desired species composition and species ratios a pond management plan will be developed with the client to establish a harvest guide. See “Management of Small Lakes and Ponds in Illinois” (IDNR 2001) for guidance or contact the IDNR Fisheries Biologist.

Aquatic vegetation will be managed when it covers more than 20% of the water surface.

Additional Criteria To Develop And Maintain A Desired Level Of Production

The desired level of production will be maintained through liming, fertilization or supplemental feeding.

CONSIDERATIONS

Consider the use of native species.

Consider using only species of fish or aquatic organisms that are specifically adapted to impounded waters.

Consider liming acidic soils in the watershed to achieve a neutral pH for best production.

Consider alternatives to the use of pesticides in the drainage area above the site, which may have negative impacts to water quality.

Consider the use of filter strips or other practices to treat surface water runoff entering the pond.

Consider the use of filter strips or other practices to ensure that discharges from ponds, lakes, and reservoirs will meet state water quality standards.

Consider methods to prevent the fish in the pond, lake, and reservoir from escaping into adjoining waters.

Consider methods to prevent introduction of non-native species into adjoining waters where native species might be adversely affected or non-compatible species from entering the pond, lake or reservoir.

Consider providing additional fish and wildlife habitat within or around the impoundment for cover and breeding purposes that will not compromise the integrity of the structure or the purpose of this practice.

Consider planting emergent aquatic plants to enhance pond habitat and aesthetics. See "Aquatic Plants Their Identification and Management" (IDNR 2001) or contact an IDNR Fishery Biologist.

Consider the installation of artificial aeration to help fish survive and prevent oxygen depletion. Compressed air systems should be utilized in depths that exceed eight feet. Contact an IDNR Fishery Biologist for recommendations.

PLANS AND SPECIFICATIONS

Plans and specifications for fish and other aquatic organism management will be in keeping with this standard and will describe the requirements for applying this practice to achieve its intended purpose. Specifications for this practice will be prepared for each site. Specifications will be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other documentation.

Requirements for the operation and maintenance of this practice will be incorporated into site specifications.

Pond Depth

The pond will have at least the minimum depth from Table 1 maintained over one fourth of its area.

TABLE 1 Minimum Pond Depth

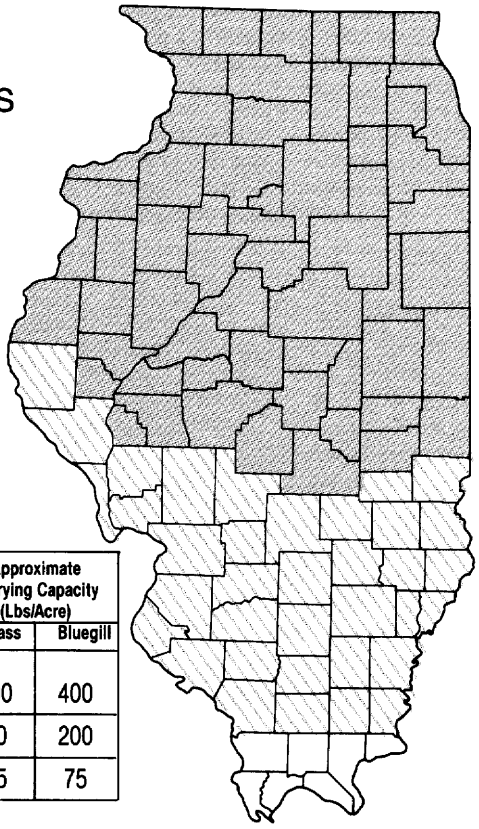
Average Annual Frost Penetration*	Minimum Pond Depth
<15 inches	7 feet
15-20 inches	8 feet
20-25 inches	9 feet
>25 inches	10 feet

* For location map see FOTG Section II Climatic Data.

Fish Stocking

For initial stocking of a new or rehabilitated pond use the following stocking guide taken from *Management of Small Lakes and Ponds in Illinois* Second Edition, IDNR Division of Fisheries, 2001. Otherwise contact the IDNR Fisheries Biologist for stocking recommendations. Supplemental stocking of 8 inch or larger channel catfish must be completed to sustain a fishable population of catfish because channel catfish do not normally maintain a population by natural reproduction in ponds in the presence of bass and bluegill.

FERTILITY MAP OF ILLINOIS IMPOUNDMENTS BASED ON ALKALINITY OF THE WATER



Alkalinity	Fertility Rating	Fertility Key	Approximate Carrying Capacity (Lbs/Acre)	
			LM Bass	Bluegill
More than 100 PPM*	Good		100	400
50 to 100 PPM*	Average		50	200
Less than 50 PPM*	Fair		25	75

*Parts per million

Locate your pond in the black, crosshatched, or clear areas in the map above. Use the following chart as a guide for its initial stocking.

Initial Fish Stocking Guide

Fertility Key									
Soil Type of Pond	Black	Light	Forest	Black	Light	Forest	Black	Light	Forest
Number of fingerling fish stocked per surface acre									
Largemouth Bass	100	80	60	90	70	50	80	60	40
Channel Catfish	100	80	60	90	70	50	80	60	40
Bluegill	1000	700	500	800	600	400	700	500	300
Bluegill/Redear Combination									
Bluegill	700	560	490	490	420	350	350	310	245
Redear	300	240	210	210	180	150	150	140	105

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OPERATION AND MAINTENANCE

The client will receive a plan or specifications describing management and corrective actions that are required for the successful management of the pond, lake or reservoir.

Recommendations for managing fish or other aquatic organism populations; supplemental feeding; removing undesirable and overpopulated organisms; and fertilizing ponds can be obtained from the IDNR publication *Management of Small Lakes and Ponds in Illinois.* (IDNR, 2001)

Aquatic Plant Control

When aquatic vegetation takes up more than 20% of the water surface area management is needed. Control can be obtained by mechanical, chemical or biological methods.

Mechanical removal – Physical removal can be accomplished by hand-pulling and raking. Mechanical removal can be effective in small ponds or spot treatments on areas such as swimming beaches. It is very labor intensive and not usually practical for larger areas.

Chemical – Prudent use of approved chemicals can be an effective technique for controlling aquatic plants in ponds. Read and follow label directions. Recommendations for herbicides that control aquatic plants may be obtained from *Aquatic Plants Their Identification and Management* (IDNR, 2001).

Biological – Triploid grass carp can be stocked in man-made impoundments to control excessive aquatic vegetation if a permit is obtained from IDNR. Control with triploid grass carp can take up to three years or more and may not control all undesirable species of plants. Suggested regional stocking rates for grass carp (8-12 inches, if bass are present) are contained in Table 2. For site specific triploid grass carp stocking recommendations contact the IDNR Fisheries Biologist.

TABLE 2 Regional Stocking Rates for Triploid Grass Carp

Percent Plant Cover	Number of Triploid Grass Carp per Lake Acre		
	South	Central	North
10 – 20	Not recommended		
20 – 40	3	4	5
40 – 60	5	7	10
Over 60	7	10	15

For more information on triploid grass carp and their control of aquatic vegetation see *Aquatic Plants Their Identification and Management* (IDNR, 2001).

REFERENCES

Illinois pond owners and potential pond builders should read the following publications for construction, stocking and management recommendations. They are available at many IDNR offices.

Illinois Department of Natural Resources Division of Fisheries. 2001. *Management of Small Lakes and Ponds in Illinois* Second Edition. Springfield, Illinois. 71 pp.

Illinois Department of Natural Resources Division of Fisheries. 2001. *Aquatic Plants Their Identification and Management* Fishery Bulletin No. 4. Springfield, Illinois. 56 pp.